

## REMARKS

This is intended as a full and complete response to the Final Office Action dated January 29, 2007, having a shortened statutory period for response set to expire on April 29, 2007. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-5, 20-22 and 46-60 remain pending in the application and are shown above. Claims 59 and 60 are withdrawing from consideration by the Examiner. Although Applicant does not agree with the Examiner's position, Claims 52-57, 59 and 60 are cancelled by the Applicant to speed prosecution of the pending claims to allowance. Applicant reserves the right to pursue the claims at a later date. Claims 1-5, 20-22 and 46-58 stand rejected. Claims 1, 20, 46, 48-49, and 58 are amended to correct matters of form and clarify the invention. These amendments are not presented to distinguish a reference, thus, the claims as amended are entitled to a full range of equivalents if not previously amended to distinguish a reference. Applicant reserves the right to pursue the original claims at a later date. Reconsideration of the rejected claims is requested for reasons presented below.

### Claim Objection

Claims 1, 20, 49 and 58 stand objected by the Examiner because of informalities. The Examiner states that the claims contain non-elected sequences. Applicant respectfully traverses the objection.

Applicant respectfully disagrees with the Examiner; however, to speed prosecution of claims to allowance claims 1, 20, and 58 are amended to correct informalities that the Examiner objected to and delete SEQ ID NO. 9, thus, broaden the invention. Claim 49 is amended to depend on Claim 48. Applicant reserves the right to pursue the original claims at a later date. Withdrawal of the objection is respectfully requested.

### Claim Rejection – 35 USC § 112

Claims 1-5 and 58 stand rejected under 35 USC § 112, second paragraph. The Examiner states that it is unclear if the isolated nucleic acid molecule includes the

sequence of SEQ ID NO: 1, or if the sequence of SEQ ID NO: 1 is separate from the BMP4 gene. Applicant respectfully traverses the rejection.

Applicant respectfully submits amendments to claim 1-5 and 58 to correct informalities and clarify the invention. Withdrawal of the rejection is respectfully requested.

Claim 48 stand rejected by the Examiner because of informalities. Applicant respectfully traverses the rejection.

Claim 48 is amended to depend on Claim 47. Withdrawal of the rejection is respectfully requested.

Claims 52-57 stand rejected under 35 USC § 112, first paragraph. Applicant respectfully traverses the rejection.

Although Applicant does not agree with the Examiner's position, claims 52-57 are cancelled by the Applicant to speed prosecution of the pending claims to allowance. Applicant reserves the right to pursue the claims at a later date. Withdrawal of the rejection is respectfully requested.

#### **Claim Rejection – 35 USC § 102**

Claims 1-3, 5, 20-22, 46-48, 50-51 and 58 stand rejected under 35 U.S.C. 102(b) as being anticipated by *Hwang, et al.* (DNA and Cell Biol. 16 (8): 1003-1077, 1997). Applicant respectfully traverses the rejection.

*Hwang, et al.* teaches cloning of an isolated genomic DNA fragment which includes the coding region of the zebrafish BMP4 gene and part of a 3' non-coding region. In addition, *Hwang, et al.* also discloses that the zebrafish BMP4 mRNA can be expressed in different tissues. However, *Hwang, et al.* does not teach, show, or suggest SEQ. ID NO. 1, as recited in claims 1-3, 5, 20-22, 46-48, 50-51 and 58.

Applicant respectfully submits that SEQ. ID NO. 1 does not include the coding region of the zebrafish BMP4 gene or part of the 3' non-coding region as disclosed in *Hwang, et al.* Claims 1-3, 5, 20-22, 46-48, 50-51 and 58 are amended to correct informalities and recite a zebrafish bone morphogenetic protein 4 gene of SEQ. ID NO. 1. Accordingly, Applicant submits that *Hwang, et al.* does not teach, show, or suggest a zebrafish bone morphogenetic protein 4 gene of SEQ. ID NO. 1, as recited in claims 1-3, 5, 20-22, 46-48, 50-51 and 58. Withdrawal of the rejection is respectfully requested.

### Claim Rejection – 35 USC § 103

Claims 4 and 49 stand rejected under 35 U.S.C. 103(a) as being anticipated by *Hwang, et al.* in view of *Chin, et al.* (Dev Genes Evol. 207:107-114, 1997) and further in view of *Bayer, et al.* (Development 115: 421-426, 1992). Applicant respectfully traverses the rejection.

*Hwang, et al.* is discussed above.

*Chin, et al.* teaches cloning of an isolated cDNA fragment which encodes the zebrafish BMP4 protein. However, *Chin, et al.* does not teach, show, or suggest SEQ. ID NO. 1, as recited in claims 1 and 46 and claims dependent thereon and lacking in *Hwang, et al.*

*Bayer, et al.* teaches generating transgenic zebrafish containing lacZ reporter genes. However, *Chin, et al.* does not teach, show, or suggest SEQ. ID NO. 1, as recited in claims 1 and 46 and claims dependent thereon and lacking in *Hwang, et al.*

Claims 4 and 49 depend on claim 1 and 46. Accordingly, Applicant submits that the references cited by the Examiner, alone or in combination, do not teach, show, or suggest a zebrafish bone morphogenetic protein 4 gene of SEQ. ID NO. 1, as recited in claims 1 and 46 and claims dependent thereon. Withdrawal of the rejection is respectfully requested.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Thus, for at least the reasons discussed above, Applicant respectfully submits that the claims are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issuance are earnestly solicited.

Respectfully submitted,



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